

WHAT IS CLAIMED IS:

1. A gear-shifting device for a manual transmission in which an operational force applied at a change-lever for a shift 5 operation is transmitted selectively to actuate a synchro-sleeve for a gear shift;

wherein:

10 said gear-shifting device comprises a shift arm, which is rotatable in correspondence to said shift operation of said change-lever, and a shift piece, which is in contact with said shift arm and is capable of shifting in response to said rotation of said shift arm;

15 said shift arm has heteromorphous cams at its contacting part, which is in contact with said shift piece; and

15 while said shift arm is rotating in correspondence to said shift operation, a distance between said contacting part and a rotational axis of said shift arm varies to change a leverage effective between said change-lever and said contacting part.

20 2. The gear-shifting device for a manual transmission, as set forth in claim 1, wherein:

while said change-lever is being operated from a neutral position to a geared position, said leverage becomes smaller halfway through the operation.

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3. The gear-shifting device for a manual transmission, as set forth in claim 1 or 2, wherein:

said manual transmission comprises a plurality of

speed-change gears and a synchromesh mechanism, which synchronizes said synchro-sleeve and one of said speed-change gears by pushing said synchro-sleeve onto said speed-change gear; and
said leverage is maximum at a time of synchronization by
5 said synchromesh mechanism.

4. The gear-shifting device for a manual transmission, as set forth in claim 3, wherein:

10 said heteromorphous cams have a compound arc figure, which comprises a plurality of combined arcs having different curvature radii; and

15 said leverage changes to a smaller value when said contacting part transits from a surface defined by one arc to a surface defined by another arc among said arcs in response to the rotation of said shift arm after the synchronization.

5. The gear-shifting device as set forth in any of claims 1 ~ 4, wherein:

20 said shift piece is provided with an approximately U shaped selector groove; and

said contacting part of said shift arm is fitted in said selector groove.

6. The gear-shifting device as set forth in any of claims 1 ~ 5, wherein:

said shift arm is mounted on a shift selector shaft, which is rotated in correspondence to the shift operation of said change-lever.